## **Textbook Alignment to the Utah Core – Eighth Grade Integrated Science**

This alignment has been completed using an "Independent Alignment Vendor" from the USOE approved list (www.schools.utah.gov/curr/imc/indvendor.html.) Yes N/A No N/A

	( <u>www.schoots.uum.gov/curr/tmc/thuvenuor.mmi.</u> ) 1es <u>1v/A</u> 1vo <u>1v/A</u>
	Name of Company and Individual Conducting Alignment:  No approved Independent Alignment Vendor required for this correlation
	A "Credential Sheet" has been completed on the above company/evaluator and is (Please check one of the following):
	□ On record with the USOE.
	☐ The "Credential Sheet" is attached to this alignment.
Core	Instructional Materials Evaluation Criteria (name and grade of the core document used to align): Eighth Grade Integrated Science
	Curriculum
	Title: <u>Science Explorer: Physical Science © 2007</u> ISBN#: <u>0-13-201252-9 (SE); 0-13-2012523-7 (TE)</u>
	Publisher: Pearson publishing as Prentice Hall
	Overall percentage of coverage in the Student Edition (SE) and Teacher Edition (TE) of the Utah State Core Curriculum: 69%
	Overall percentage of coverage in <i>ancillary materials</i> of the Utah Core Curriculum: 64%
STAN	DARD I: Students will understand the nature of changes in matter.

for	Percentage of coverage in the student and teacher edition  Standard I: 100 %	Percentage of coverage not in student or teacher edition, but covered in the ancillary material for Standard I:100%			
	OBJECTIVES & INDICATORS	Coverage in Student Edition(SE) and Teacher Edition (TE) (pg #'s, etc.)	Coverage in Ancillary Material (titles, pg #'s, etc.)	Not covered in TE, SE or ancillaries ✓	
Obje substa	etive 1.1: Describe the chemical and physical properties of various.				
	a. Differentiate between chemical and physical properties.	SE/TE: 35-37, 50-52	TR: Transparency: PS10, 14, 15; Guided Reading: 107-109, 123-124; Section Summary: 106, 122; Review and Reinforce: 110, 125; Enrich: 111, 126; Lab Manual: 11, 51 TECH: PresentationExpress; www.SciLinks.org: scn-111 Student Edition on Audio CD; Discovery School: Introduction to Matter; PHSchool.com: cgp-1013, cgh-1010; Student Express CD-ROM		
	b. Classify substances based on their chemical and physical properties (e.g., reacts with water, does not react with water flammable or nonflammable, hard or soft, flexible or nonflexible, evaporates or melts at room temperature).	SE/TE: 35-37, 50-52, 175-176	TR: Transparency: PS10, 14, 15; Guided Reading: 107-109, 123-124; Section Summary: 106, 122; Review and Reinforce: 110, 125; Enrich: 111, 126; Lab Manual: 11, 51, 48 TECH:		

			PresentationExpress; www.SciLinks.org: scn- 111 Student Edition on Audio CD; Discovery School: Introduction to Matter; PHSchool.com: cgp-1013, cgh-1010;
c.	Investigate and report on the chemical and physical propert of a particular substance.	118, 119, 129, 130, 173, 175,	Student Express CD-ROM  TR: Transparency: PS10, 12, 14, 15, 98; Guided
		185	Reading: 107-109, 114- 116, 123-124; Section Summary: 106, 113, 122; Review and Reinforce: 110, 117, 125; Enrich: 111, 118, 126; Lab Manual: 11, 20, 51 TECH: PresentationExpress; www.SciLinks.org: scn- 111 Student Edition on Audio CD; Discovery School: Introduction to Matter; PHSchool.com: cgp-1013, cgh-1010; Student Express CD- ROM; Lab Activity Video/DVD: Making sense of density; PHSchool.com: cgd-1012
Objective	<b>1.2:</b> Observe and evaluate evidence of chemical and		THISCHOOLCOITI. Cgu-1012
physical c			
a.	Identify observable evidence of a physical change (e.g., change in shape, size, phase).	<b>SE/TE:</b> 50-51, 70-95, 186	TR: Transparency: PS10, 14, 15, 18, 20, 21, 23- 25, 27; Guided Reading: 107-109, 123-124, 169- 171, 176-178, 185-187, 192-194; Section

		T	
			Summary: 106, 122,
			168, 175, 184, 191;
			Review and Reinforce:
			110, 125, 172, 179, 188,
			195; Enrich: 111, 126,
			173, 180, 189, 196; Lab
			Manual: 11, 15, 17, 51
			TECH:
			PresentationExpress;
			www.SciLinks.org: scn-
			111, 1124; Student
			Edition on Audio CD;
			Discovery School:
			Introduction to Matter,
			Solids, Liquids and
			Gases; PHSchool.com:
			cgp-1013, cgh-1010,
			cgd-1022, cgp-1023; Lab
			Activity Video/DVD:
			Melting Ice, It's a Gas;
			Student Express CD-ROM
b.	Identify observable evidence of a chemical change (e.g., co	<b>SE/TE</b> : 52-53, 186, 188	TR: Transparency: PS10,
	change, heat or light given off, change in odor, gas given of		14, 15; Guided Reading:
	change, heat of fight given off, change in odor, gas given of		107-109, 123-124;
			Section Summary: 106,
			122; Review and
			Reinforce: 110, 125;
			Enrich: 111, 126; Lab
			Manual: 11, 14, 51, 48
			TECH:
			PresentationExpress;
			www.SciLinks.org: scn-
			111 Student Edition on
			Audio CD; Discovery
			School: Introduction to
			Matter; PHSchool.com:
			cgp-1013, cgh-1010;
	Observe and describe described to the second	<b>SE /TE</b> : E2: 101	Student Express CD-ROM
c.	Observe and describe chemical reactions involving	<b>SE/TE</b> : 52, 191	TR: Transparency: PS10,
	atmospheric oxygen (e.g., rust, fire, respiration,		14, 15; Guided Reading:

	physical change.		Reading: 129-130, 176- 178, 386-389; Section Summary: 128, 175, 385; Review and Reinforce: 131, 179, 390; Enrich: 132, 179, 391; Lab Manual: 8, 15 TECH: PresentationExpress CD- ROM; StudentExpress CD-ROM; PHSchool.com cgd-1022; Lab Activity Video/DVD: Melting Ice, Isolating Copper by Electrolysis; Discovery School: Thermal Energy and Heat; www.Scilinks.org: scn- 1114, 1363
b.	Relate the amount of energy added or taken away from substance to the motion of molecules in the substance.	SE/TE: 76-82	TR: Transparency: PS20, 21; Guided Reading: 176-178; Section Summary: 175; Review and Reinforce: 179; Enrich: 179; Lab Manual: 15 TECH: PresentationExpress CD- ROM; StudentExpress CD-ROM; PHSchool.com cgd-1022; Lab Activity Video/DVD
c.	Measure and graph the relationship between the states of water and changes in its temperature.	<b>SE/TE</b> : 80, 82, 190	TR: Lab Manual: 15 TECH: PHSchool.com: cgd-1022
d.	Cite evidence showing that heat may be given off or taken during a chemical change (e.g., striking a match, mixing vinegar and antacid, mixing ammonium chloride and water		TR: Lab Manual: 44, 48; Guided Reading: 373- 375; Section Summary: 372; Review and Reinforce: 376; Enrich:

	,		,
			377
			TECH:
			www.SciLinks.org: scn-
			1114, scn-1221; Lab
			Activity Video/DVD:
			Where's the Evidence;
			PresentationExpress CD-
			ROM; StudentExpress
			CD-ROM
e.	Plan and conduct an experiment, and report the effect of	<b>SE/TE</b> : 63, 192	<b>TR:</b> Lab Manual: 16, 10,
	adding or removing energy on the chemical and physical	<b>52.</b> 12. 55, 172	44
			TECH: Lab
	changes.		ActivityVideo/DVD:
			Where's the Evidence?;
			PresentationExpress CD-
			ROM; StudentExpress
			CD-ROM
Ohioativa	<b>1.4:</b> Identify the observable features of chemical reactions.		CD-ROW
Objective	1.4: Identify the observable features of chemical features.		
a.	Identify the reactants and products in a given chemical	<b>SE/TE</b> : 194-202	TR: Tranparency: PS60,
	change and describe the presence of the same atoms in both		98, 61, 62; Gudied
	the reactants and products.		Reading: 384-388;
	the reactaints and products.		Secton Summary: 383;
			Review and Reinforce:
			389; Enrich: 390
			TECH:
			PresentationExpress CD-
			ROM; StudentExpress
			CD-ROM; Student Edition
			on Audio CD-ROM;
			PHSchool.com: cgh-
			2020, cgp-2022;
			Discovery School:
			Chemical Reactions
<b>b.</b>	Cite examples of common significant chemical reactions	<b>SE/TE:</b> 202-203, 176-177	TR: Transparency:
D.		JL/ IL. 202-203, 170-177	PS154
	(e.g., photosynthesis, respiration, combustion, rusting) in		TECH: Discovery School:
	daily life.		Atoms and bonding;
		<b>SE/TE</b> : F2: 10/	PHSchool.com: cgh-2020
c.	Demonstrate that mass is conserved in a chemical reaction	<b>SE/TE</b> : 53, 196	TR: Tranparency: PS61,

	(e.g., mix two solutions that result in a color change or formation of a precipitate and weigh the solutions before and after mixing).	<b>SE/TE</b> : 204-211	62; Gudied Reading: 384-388; Secton Summary: 383; Review and Reinforce: 389; Enrich: 390 TECH: PresentationExpress CD- ROM; StudentExpress CD-ROM; Student Edition on Audio CD-ROM; PHSchool.com: cgh- 2020, cgp-2022; Discovery School: Chemical Reactions
d.	Experiment with variables affecting the relative rates of chemical changes (e.g., heating, cooling, stirring, crushing, concentration).	SE/TE: 204-211	TR: Transparency: PS64, 65; Guided Reading: 393-396; Section Summary: 392; Review and Reinforce: 397; Enrich: 398; Lab Manual: 48 TECH: PresentationExpress CD-ROM; StudentExpress CD-ROM; Student Edition on Audio CD-ROM; PHSchool.com: cgd-2023; Discovery School: Chemical Reactions; Lab Activity Video/DVD: Temperature and Enzyme Activity
e.	Research and report on how scientists or engineers have applied principles of chemistry to an application encountered in daily life (e.g., heat-resistant plastic handles on pans, rust resistant paints on highway bridges).	<b>SE/TE</b> : 202-203, 278-279, 282-283, 494-495	TR: Transparency: PS156 TECH: PHSchool.com: cgh-2020, cgh-1040; www.SciLinks.org: scn- 1224

organisms, and that changing the environment may alter the amount of energy provided to living organisms.

for	Percentage of coverage in the student and teacher edition  Standard II: 36 %	covered in		
	OBJECTIVES & INDICATORS	Coverage in Student Edition(SE) and Teacher Edition (TE) (pg #'s, etc.)	Coverage in Ancillary Material (titles, pg #'s, etc.)	Not covered in TE, SE or ancillaries ✓
Object energy	tive 2.1: Compare ways that plants and animals obtain and use			
	a. Recognize the importance of photosynthesis in using light energy as part of the chemical process that builds plant materials.	SE/TE: 61	TR: Guided Reading: 129-130; Section Summary: 128; Review and Reinforce: 131 TECH: www.SciLinks.org: scn- 1114	
	<b>b.</b> Explain how respiration in animals is a process that conver food energy into mechanical and heat energy.	SE/TE: 250-253	TR: Transparency: PS81; Guided Reading: 474- 475; Section Summary: 473; Review and Reinforce: 476; TECH: www.SciLinks.org: scn- 1235; Student Edition on Audio CD; PresentationExpress CD- ROM; StudentExpress CD-ROM	
	c. Trace the path of energy from the sun to mechanical energy in an organism (e.g., sunlight - light energy to plants by photosynthesis to sugars - stored chemical energy to respiration in muscle cell - usable chemical energy to musc contraction- mechanical energy).		TR: Transparency: PS147; Guided Reading: 329-330; Section Summary: 328; Review and Reinforce: 331; Enrich: 332	

<b>Objective</b> organisms.	2.2: Generalize the dependent relationships between	ROM, S CD-ROM	ationExpress CD- tudentExpress A; Student Edition o CD; Discovery Energy
a.	Categorize the relationships between organisms (i.e., producer/consumer/decomposer, predator/prey, mutualism/parasitism) and provide examples of each.		
b.	Use models to trace the flow of energy in food chains and food webs.		
c.	Formulate and test a hypothesis on the effects of air, temperature, water, or light on plants (e.g., seed germination growth rates, seasonal adaptations).	SE/TE: 464	
d.	Research multiple ways that different scientists have investigated the same ecosystem.		
	<b>2.3:</b> Analyze human influence on the capacity of an ent to sustain living things.		
a.	Describe specific examples of how humans have changed the capacity of an environment to support specific life forms (e.g., people create wetlands and nesting boxes that increase the number and range of wood ducks, acid rain damages amphibian eggs and reduces population of frogs, clear cuttifications affects squirrel populations, suburban sprawl reduce mule deer winter range thus decreasing numbers of deer).		
b.	Distinguish between inference and evidence in a newspaper		

		or magazine article relating to the effect of humans on the environment.			
	c.	Infer the potential effects of humans on a specific food web			
	d.	Evaluate and present arguments for and against allowing a specific species of plant or animal to become extinct, and relate the argument to the of flow energy in an ecosystem.			
STAN	DAI	RD III: Students will understand the processes of rock ar	nd fossil formation.		
for		rcentage of coverage in the student and teacher edition	Percentage of coverage not is covered in		ŕ
	Standard III: <u>26</u> %		the ancillary material for Standard IV:16%		
	OB	BJECTIVES & INDICATORS	Coverage in Student Edition(SE) and Teacher Edition (TE) (pg #'s, etc.)	Coverage in Ancillary Material (titles, pg #'s, etc.)	Not covered in TE, SE or ancillaries ✓
Objec are rel		<b>3.1:</b> Compare rocks and minerals and describe how they	.,,	,	
	a.	Recognize that most rocks are composed of minerals.			
	b.	Observe and describe the minerals found in rocks (e.g., shar color, luster, texture, hardness).			
	c.	Categorize rock samples as sedimentary, metamorphic, or igneous.			
•		<b>3.2:</b> Describe the nature of the changes that rocks undergo periods of time.			

	Diagram and explain the rock cycle.		
a.	Diagram and explain the fock cycle.		
b.	Describe the role of energy in the processes that change roc materials over time.		
c.	Use a model to demonstrate how erosion changes the surfactor of Earth.		
d.	Relate gravity to changes in Earth's surface.		
e.	Identify the role of weathering of rocks in soil formation.		
f.	Describe and model the processes of fossil formation.	<b>SE/TE</b> : 463	
Objective infer Earth	<b>3.3:</b> Describe how rock and fossil evidence is used to 's history.		
a.	Describe how the deposition of rock materials produces layering of sedimentary rocks over time.	<b>SE/TE</b> : 463	
b.	Identify the assumptions scientists make to determine relati ages of rock layers.		
c.	Explain why some sedimentary rock layers may not always appear with youngest rock on top and older rocks below (i.e folding, faulting).		
d.	Research how fossils show evidence of the changing surfac of the Earth.		
e.	Propose why more recently deposited rock layers are more likely to contain fossils resembling existing species than old rock layers.		
Objective	<b>3.4:</b> Compare rapid and gradual changes to Earth's surface.		

	D	<b>CE /TE</b> : E20 E22	TD. Cuided Decilies 74
a.	Describe how energy from the Earth's interior causes chang to Earth's surface (i.e., earthquakes, volcanoes).	<b>SE/TE</b> : 530-533	TR: Guided Reading: 74- 75; Section Summary: 73; Review and Reinforce: 77; Enrich: 78; Transparency: PS170 TECH: PresentationExpress CD- ROM, StudentExpress CD-ROM; Student Edition on Audio CD; www.Scilinks.org: scn- 1514; Discovery School:
b.	Describe how earthquakes and volcanoes transfer energy from Earth's interior to the surface (e.g., seismic waves transfer mechanical energy, flowing magma transfers heat and mechanical energy).	<b>SE/TE</b> : 530-533	Characteristics of Waves  TR: Guided Reading: 74- 75; Section Summary: 73; Review and Reinforce: 77; Enrich: 78; Transparency: PS170 TECH: PresentationExpress CD- ROM, StudentExpress CD-ROM; Student Edition on Audio CD; www.Scilinks.org: scn- 1514; Discovery School: Characteristics of Waves
c.	Model the process of energy buildup and release in earthquakes.		<b>TR:</b> 530
d.	Investigate and report possible reasons why the best engineering or ecological practices are not always followed making decisions about building roads, dams, and other structures.	<b>SE/TE</b> : 500-503	
e.	Model how small changes over time add up to major chang to Earth's surface.		

for	Percentage of coverage in the <i>student and teacher edition</i> Standard IV:	Percentage of coverage not in student or teacher edition, but covered in the ancillary material for Standard VI:		
	OBJECTIVES & INDICATORS	Coverage in Student Edition(SE) and Teacher Edition (TE) (pg #'s, etc.)	Coverage in Ancillary Material (titles, pg #'s, etc.)	Not covered in TE, SE or ancillaries
<b>Obje</b> nater	ctive 4.1: Investigate the transfer of energy through various ials.			
	a. Relate the energy of a wave to wavelength.	SE/TE: 515-520	TR: Transparency: PS162; Lab Manual: 140, 145; Guided Reading: 54-56; Section Summary: 53; Review and Reinforce: 57; Enrich: 58 TECH: PresentationExpress CD- ROM, StudentExpress CD-ROM; Student Edition on Audio CD; Lab Activity Video/DVD: Wavy Motion; PHSchool.com: cgd-5012	
	<b>b.</b> Compare the transfer of energy (i.e., sound, light, earthqu waves, heat) through various mediums.	ak <b>SE/TE</b> : 479-485, 510-514, 543	TR: Transparency: PS151; Guided Reading: 376-378, 47-49; Section Summary: 375, 46; Review and Reinforce: 379, 50; Enrich: 380, 51; Lab Manual: 133	

			TECH:
			PresentationExpress CD-
			ROM, StudentExpress
			CD-ROM; Student Edition
			on Audio CD; Lab
			Activity Video/DVD: Just
			Add Water;
			www.Scilinks.org: scn-
	D	<b>SE/TE</b> : 472-478	1362, 1511 <b>TR:</b> Transparency: PS
c.	Describe the spread of energy away from an energy-	<b>SE/TE</b> : 4/2-4/8	
	producing source.		151; Guided Reading:
			367-369; Section
			Summary: 366; Review
			and Reinforce: 370;
			Enrich: 371;
			TECH:
			PresentationExpress CD-
			ROM, StudentExpress
			CD-ROM; Student Edition
			on Audio CD; Discovery
			School: Thermal Energy
			and Heat
			www.Scilinks.org: scn-
			1361
d.	Compare the transfer of heat by conduction, convection, and	<b>SE/TE</b> : 480-481	TR: Transparency:
	radiation and provide examples of each.		PS151Guided Reading:
			376-378; Section
			Summary: 375; Review
			and Reinforce: 379;
			Enrich: 380; Lab Manual:
			133
			TECH:
			PresentationExpress CD-
			ROM, StudentExpress
			CD-ROM; Student Edition
			on Audio CD; Lab
			Activity Video/DVD: Just
			Add Water;
			www.Scilinks.org: scn-
			1362

e.	Demonstrate how white light can be separated into the visib color spectrum.	<b>SE/TE</b> : 578, 616	TR: Lab Manual: 167 TECH: Interactive Text			
Objective	Objective 4.2: Examine the force exerted on objects by gravity.					
a.	Distinguish between mass and weight.	<b>SE/TE</b> : 345	TR: Transparency: PS111; Guided Reading: 115-118; Section Summary: 114; Review and Reinforce: 119; Enrich: 120 TECH: PresentationExpress CD- ROM; StudentExpress CD-ROM; Student Edition on Audio CD-ROM; www.SciLinks.org: scn- 1322			
b.	Cite examples of how Earth's gravitational force on an object depends upon the mass of the object.	<b>SE/TE</b> : 344-345	TR: Guided Reading: 115-118; Section Summary: 114; Review and Reinforce: 119; Enrich: 120 TECH: PresentationExpress CD- ROM; StudentExpress CD-ROM; Student Edition on Audio CD-ROM; www.SciLinks.org: scn- 1322			
c.	Describe how Earth's gravitational force on an object depends upon the distance of the object from Earth.	<b>SE/TE</b> : 344, 346	TR: Guided Reading: 115-118; Section Summary: 114; Review and Reinforce: 119; Enrich: 120 TECH: PresentationExpress CD- ROM; StudentExpress CD-ROM; Student Edition			

			on Audio CD-ROM; www.SciLinks.org: scn- 1322
d.	Design and build structures to support a load.	<b>SE/TE</b> : 405	TR: Chapter Project Scoring Rubric TECH: Interactive Text
e.	Engineer (design and build) a machine that uses gravity to accomplish a task.	<b>SE/TE</b> : 333	TR: Chapter Project Scoring Rubric TECH: Interactive Text
	<b>4.3:</b> Investigate the application of forces that act on ad the resulting motion.		
a.	Calculate the mechanical advantage created by a lever.	<b>SE/TE</b> : 416, 426	TECH: Interactive Text
b.	Engineer a device that uses levers or inclined planes to crea a mechanical advantage.	<b>SE/TE</b> : 434-436	TR: Lab Manual: 113 TECH: Lab Activity Video/DVD: Angling for Access
c.	Engineer a device that uses friction to control the motion of an object.	<b>SE/TE</b> : 338-339	TR: Lab Manual: 88 TECH: Lab Activity Video/DVD: Sticky Sneakers
d.	Design and build a complex machine capable of doing a specified task.	<b>SE/TE</b> : 405	TR: Chapter Project Scoring Rubric TECH: Interactive Text
e.	Investigate the principles used to engineer changes in force and motion.	SE/TE: 334-339	TR: Transparency: PS109; Guided Reading: 105-106; Section Summary: 104; Review and Reinforce: 107; Enrich: 108; Lab Manual: 88 TECH: PresentationExpress CD- ROM; StudentExpress CD-ROM; Student Edition on Audio CD; www.SciLinks.org: scn-

			1321; Lab Activity Video/DVD: Sticky Sneakers
	<b>4.4:</b> Analyze various forms of energy and how living sense and respond to energy.		
a.	Analyze the cyclic nature of potential and kinetic energy (e.g., a bouncing ball, a pendulum).	<b>SE/TE</b> : 440-449; 452, 456, 458, 460	TR: Transparency: PS144, 146, 148; Guided Reading: 303-304, 313- 315, 318-320; Section Summary: 302, 308, 317; Review and Reinforce: 305, 311, 321; Enrich: 306, 312, 322; Lab Manual: 120, 123, 127 TECH: PresentationExpress CD- ROM, StudentExpress CD-ROM; Student Edition on Audio CD; Lab Activity Video/DVD: Can you Feel the Power?, Soaring Straws; PHSchool.com: cgp- 3053; Discovery School: Energy; www.Scilinks.org: scn- 1351, 1352
b.	Trace the conversion of energy from one form of energy to another (e.g., light to chemical to mechanical).	SE/TE: 454-459	TR: Transparency: PS146; Guided Reading: 318-320; Section Summary: 317; Review and Reinforce: 321; Enrich: 322; Lab Manual: 123 TECH: PresentationExpress CD- ROM, StudentExpress CD-ROM; Student Edition

c.	Cite examples of how organisms sense various types of energy.	<b>SE/TE</b> : 565	on Audio CD; Lab Activity Video/DVD: Soaring Straws; PHSchool.com: cgp- 3053; Discovery School: Energy TECH: Interactive Text
d.	Investigate and report the response of various organisms to changes in energy (e.g., plant response to light, human response to motion, sound, light, insect's response to chang in light intensity).		TR: Guided Reading: 145-147; Section Summary: 144; Review and Reinforce: 148; Enrich: 149 TECH: PresentationExpress CD- ROM, StudentExpress CD-ROM; Student Edition on Audio CD; PHSchool.com: cgd- 5025; Discovery School: Sound
e.	Investigate and describe how engineers have developed devices to help us sense various types of energy (e.g., seismographs, eyeglasses, telescopes, hearing aids).	<b>SE/TE</b> : 522, 584-585, 634-641, 646-651	TR: Guided Reading: 280-283; Section Summary: 279; Review and Reinforce: 284; Enrich: 285; Transparency: PS210 TECH: PresentationExpress CD- ROM, StudentExpress CD-ROM; Student Edition on Audio CD; Discovery School: Light; www.Scilinks.org: scn- 1545